

Notice of Allowability

Application No.

09/890,347

Examiner

Vincent E. Kovalick

Applicant(s)

NAKAGAWA ET AL.

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendment dated 6/10/05.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 9/20/01
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

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DETAILED ACTION

1. This Office Action is in response to Applicant's Amendment dated Jun 10, 2005 in response to USPTO Office Action dated January 10, 2005.

The amendments to claims 1-4, 7-19 and 22-30 and consideration of Applicant's remarks are sufficient to place the application in a condition for allowance as indicated hereinbelow.

Allowable Subject Matter

2. Claims 1-30 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Relative to claims 1-2 and 16-17, the major difference between the teachings of the prior art of record (Hisaki, USP 6,674,917 and Sites et al., USP5,515,159) and that of the instant invention is that said prior art of record **does not teach** an image generation system wherein computation for obtaining information relating to at least one of the brightness and color of a primitive surface constructing the simple object is performed based on an angle difference between a line-of-sight vector of a virtual camera and a light vector from the light source without using a normal vector for each primitive surface.

Relative to claims 3-4 and 18-19, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** an image generation system wherein computation for obtaining information relating to at least one of the brightness and color of a primitive surface constructing the simple object is performed based on

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an angle difference between a line-of-sight vector of a virtual camera and a light vector from the light source

Relative to claims 7-8 and 22-23, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** an image generation system comprising means which performs a light-source simple processing, the processing being necessary to change at least one of the brightness and color of a surface of a simple object according to the amount of light that is sent from a light source and received by the surface of the simple object; means which generates an image of the simple object based on a result of the light-source simple processing and means which rotates the simple object such that a normal vector of primitive surfaces constructing the simple object becomes parallel to a line-of-sight vector of a virtual camera.

Relative to claims 11-12 and 26-27, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** an image generation system wherein information relating to at least one of the brightness and color of a primitive surface constructing one simple object among a plurality of simple objects is used to generate an image of a primitive surface of another simple object among the plurality of simple objects

Relative to claims 15 and 30, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** an image generation system comprising means which generates an image of the simple object based on a result of the light-source simple processing, wherein computation for obtaining information relating to at least one of the brightness and color of a primitive surface constructing the simple

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object is performed based on an angle difference between line-of-sight vector of a virtual camera and a light vector from the light source, without using a normal vector for each primitive surface, wherein the simple object or primitive surface constructing the simple object are set to have a first and second color information, and wherein information relating to the color of the primitive surfaces is computed by interpolation computation based on the first and second color information and information relating to at least one of the brightness and color of one of the primitive surfaces.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	5,821,999	Barnsley et al.
U. S. Patent No.	5,682,505	Usami et al.
U. S. Patent No.	5,608,451	Konno et al.
U. S. Patent No.	5,253,339	Wells et al.

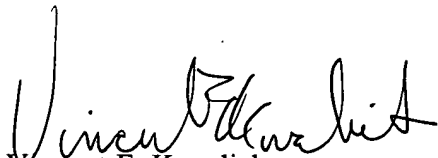
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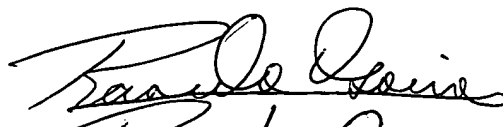
To Respond

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E. Kovalick whose telephone number is 571-272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Vincent E. Kovalick
September 22, 2005


Ricardo Osorio
PRIMARY EXAMINER